

No. 38415R1

APPENDIX A

1.1.1.1 Modem Emulation Mode

The intention of this mode of operation is for point to point communications between two Picolink radios. After the radio is reset the radio will process any incoming data from the host. If data is received while RTS is asserted the radio will process the data looking for 'AT' commands. If any 'AT' commands are received, the radio will automatically enter the modem emulation mode. Once this mode is set the radio will respond to certain 'AT' commands. In this mode it is easy for a terminal emulation program or any program that can communicate with a modem to easily create or join a point to point network.

If at any time the radio receives a command to enter smart mode, the current network (if one exists) will be immediately terminated.

The radio will respond to the 'AT' commands listed in the table below:

Command	Description
ATA	Radio will join any network
ATD[T,P]	Radio will either create or join a network
ATH	Radio will terminate the active network
ATO	Radio will leave command mode and go back online
ATQ	Radio will not send responses if QUIET mode is enabled
ATV	Radio will send text responses if enabled, numeric response if disabled
+++	Radio will enter command mode

Any other received commands that are not listed above will be receive and OK response and the command will be ignored by the radio.

The radio will return the following verbose responses; 'OK' and 'CONNECT' or the associated numeric responses '0' and '14'

1.1.1.1.1 ATA Command

When the radio receives this command the radio will begin looking for any network to join. If a network is found, the radio will join the network and return a 'CONNECT' or '14' response if QUIET mode is disabled. At this time the CD (Carrier Detect) line will be asserted and data transfer can take place between the connected radios.

Field	Description
ATA	Modem auto answer command

1.1.1.1.2 ATD Command

When the radio receives this command it will either create an infrastructured network or join and infrastructured network of the requested type. Once the network is started or joined the radio will return a 'CONNECT' or '14' response if QUIET mode is disabled. At this time the CD line will be asserted and data transfer can take place between the connected radios.

Field	Description
ATD	Modem dial command
T,P	T = Tone P = Pulse dialing, this is required but ignored by the radio
0,1	0 = create a network; 1 = join a network
NNNN	Network ID, this value ranges from 0 to 65,534 and identifies the specific network
,	Separator between Network ID and Awake Window parameters
WWWWW	Awake Window, this value ranges from 0 to 65,535 and indicates how long the radio will remain awake after a message is sent. A value of 65,535 indicates that the radio will remain on. This setting is in 0.1-second increments
,	Separator between the Awake window and Info field
Info	Up to 32 bytes of text data

1.1.1.1.3 ATH Command

When the radio receives this command it will cause the current active network to be terminated. Once this command has successfully completed the CD line will be unasserted.

Field	Description
ATH	Modem hang-up command

1.1.1.1.4 ATO Command

When the radio receives this command and the radio is currently in command mode, the radio will go back online and data transfer can once again take place. If the radio is not in command mode, this string will be passed as data.

Field	Description
ATO	Modem online command

1.1.1.1.5 ATQ Command

When the radio receives this command it will either enable or disable QUIET mode for modem responses.

Field	Description
ATQ	Modem online command
0,1	0 = disable quiet mode 1 = enable quiet mode

1.1.1.1.6 ATV Command

When the radio receives this command it will either enable or disable verbose mode. When enabled the radio will return text responses other wise it will return numeric responses. The only responses returned by the radio are 'OK', 'CONNECT', '0' or '14'.

Field	Description
ATV	Modem online command
0,1	0 = numeric responses 1 = text responses

1.1.1.1.7 '+++ Command

When the radio receives a '+++' command when the radio is online, the radio will return to command mode. At this time modem commands can be sent to the radio. This would normally be used to hang-up the modem.

NOTE: under certain conditions long strings of '+' characters could be inadvertently interpreted as the '+++' command.

Field	Description
+++	Enter modem command mode